



January 10, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

A

ORIGINAL

OPPT Document Control Officer
C/O OPPT Document Processing Center
East Tower, Room G-99 (Mail Code 7405)
Attn: 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460



8EHQ-96-13575
INIT 01/22/96

8EHQ-0176-18575

Contains No CBI

RE: Acetaldehyde Formed by Heating a Mixture of
Octyltriethoxsilane and Titanium Dioxide in Air

Dear Sir or Madam:

PCR, Inc. has determined that the results of an oxy-thermal decomposition experiment involving Octyltriethoxsilane may be subject to reporting under TSCA Section 8(e). The information provided herein was recently obtained by PCR in the course of investigating by-products formed during filler treatment with Octyltriethoxsilane.

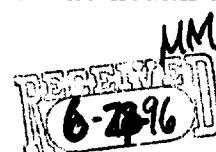
BRIEF SUMMARY

The salient finding is that Acetaldehyde is one of the by-products formed when Octyltriethoxsilane is contacted with Titanium Dioxide powder and heated in air to 250°C. The simple experiment involved contacting 2 grams of Octyltriethoxsilane with 20 grams of Titanium Dioxide, heating in air to 250°C for one hour in a sealed thick-walled glass tube and analyzing the head space using GC/MS.

Acetaldehyde is in the oxidation series for ethanol and its formation in the subject experiment is possibly aided by Titanium Dioxide acting as a catalyst.

Octyltriethoxsilane is generally considered non-hazardous but Acetaldehyde is hazardous because it can act as an irritant (eyes, nose and mucous membranes of the upper respiratory system).

The formation of Acetaldehyde in this type of use scenario is noteworthy for selecting proper facilities and personal protective equipment to ensure the health and safety of potentially exposed workers.



a division of



HARMONT SPECIALTY CHEMICALS, INC.

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ACTIONS

1. A copy of a final summary report will be provided to EPA by PCR, Inc.
2. PCR, Inc. has reviewed its own operations. At present, PCR, Inc. does not carry out any operations where mixtures of Octyltriethoxysilane and Titanium Dioxide are heated to raised temperatures in air.
3. PCR, Inc. is notifying its Octyltriethoxysilane customers about the findings of the subject experiment.
4. PCR, Inc. is revising its own MSDS for Octyltriethoxysilane to alert users to the possible formation of Acetaldehyde during uses involving heating mixtures of Octyltriethoxysilane and Titanium Dioxide in air.

If you have any questions please contact me at (352) 376-8246 x-217.

Very truly yours,



Keith B. Baucom
Vice President, Quality and
Regulatory Affairs

/kah
QRA96610

Triage of 8(e) Submissions

Date sent to triage: _____

NON-CAP

CAP

Submission number: 13575 A

TSCA Inventory:

Y

N

D

Study type (circle appropriate):

Group 1 - Gordon Cash (1 copy total)

ECO AQUATO

Group 2 - Ernie Falke (1 copy total)

ATOX SBTOX SEN w/NEUR

Group 3 -HERD (1 copy each)

STOX CTOX EPI RTOX GTOX

STOX/ONCO CTOX/ONCO IMMUNO CYTO NEUR

Other (FATE, EXPO, MET, etc.): _____

Notes: NOT SENT: Contains info on Composition and Formation

- This is the original 8(e) submission; refile after triage evaluation.
- This original submission has been split; rejoin after triage evaluation.
- Other:

Photocopies Needed for Triage Evaluation

entire document: 0 1 2 3

front section and CECATS: 0 1 2 3

Initials: _____

Date: _____

CHIANS TRIAGE INVENTORY FORM

CHIANS DATA
Submission # 8E1Q_0196 - 135 E.

INFORMATION REQUESTED

- 0501 NO INFO REQUESTED
- 0502 INFO REQUESTED (H-C)
- 0503 INFO REQUESTED (VOL ACTIONS)
- 0504 INFO REQUESTED (REPORTING RATIONALE)
- 0639 REFER TO CHEMICAL SCREENING
- 0678 CAP NOTICE

VOLUNTARY ACTIONS

- 0401 NO ACTION REPORTED
- 0402 STUDIES PLANNED/UNDERWAY
- 0403 NOTIFICATION OF WORKER/OHRS
- 0404 LABEL/MSDS CHANGES
- 0405 PROCESS/HANDLING CHANGES
- 0406 APP/USE DISCONTINUED
- 0407 PRODUCTION DISCONTINUED
- 0408 CONFIDENTIAL

SUBMITTER NAME: PCR, Inc.

TYPE: (INF) SUPP HWI

SUB DATE: 01/10/96 OIS DATE: 01/22/96

CHEMICAL NAME:

INFORMATION TYPE:

P F C	INFORMATION TYPE:
01 02 04	ONCO (HUMAN)
01 02 04	ONCO (ANIMAL)
0218	CELL TRANS (IN VITRO)
01 02 04	MUTA (IN VITRO)
01 02 04	MUTA (IN VIVO)
01 02 04	REPRO/TERATO (HUMAN)
01 02 04	REPRO/TERATO (ANIMAL)
01 02 04	NEURO (HUMAN)
01 02 04	NEURO (ANIMAL)
01 02 04	ACUTE TOX. (HUMAN)
01 02 04	CHR. TOX. (HUMAN)
01 02 04	ACUTE TOX. (ANIMAL)
01 02 04	SUB ACUTE TOX (ANIMAL)
01 02 04	SUB CHRONIC TOX (ANIMAL)
01 02 04	CHRONIC TOX (ANIMAL)

INFORMATION TYPE:

P F C	INFORMATION TYPE:
0216	EPI/CLIN
0217	HUMAN EXPOS (PROD CONTAM)
0218	HUMAN EXPOS (ACCIDENTAL)
0220	HUMAN EXPOS (MONITORING)
0221	ECO/AQUA TOX
0221	ENV. OCC/CREL/FATE
0222	EMER INCI OF ENV CONTAM
0223	RESPONSE REQUEST DELAY
0224	PROD/COMP/CHM ID
0225	REPORTING RATIONALE
0226	CONFIDENTIAL
0227	ALLERG (HUMAN)
0228	ALLERG (ANIMAL)
0239	METAB/PHARMACO (ANIMAL)
0240	METAB/PHARMACO (HUMAN)

TRIAGE DATA: NONCB INVENTORY

ONGOING REVIEW

SPECIES

YES (DROP/REFER)

NO (CONTINUE)

USE:

PRODUCTION:

TOXICOLOGICAL CONCERN:

LOW

MED

HIGH

DETERMINE

REFER:

COMMENTS:

CAS# 06/28/96
DISPOSITION:
0639 REFER TO CHEMICAL SCREENING

P F C

CAS#	DISPOSITION:	P F C	INFORMATION TYPE:
15-37-0	0639 REFER TO CHEMICAL SCREENING	01 02 04	IMMUNO (ANIMAL)
15463-67-1	0639 REFER TO CHEMICAL SCREENING	01 02 04	IMMUNO (HUMAN)
2943-75-1	0639 REFER TO CHEMICAL SCREENING	01 02 04	CHEMPHYS PROP
		0241	CLASTO (IN VITRO)
		0242	CLASTO (ANIMAL)
		0244	CLASTO (HUMAN)
		0245	DNA DAM/REPAIR
		0246	PROD/USG/PROC
		0248	MSDS
		0251	OTHER